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Title:

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Date:

2018-05-01

Citation:

de Bruin, L. R. (2018). Shaping interpersonal learning in the jazz improvisation lesson: Observing a dynamic systems approach. *International Journal of Music Education*, 36 (2), pp.160-181. <https://doi.org/10.1177/0255761417712318>.

Persistent Link:

<https://hdl.handle.net/11343/311553>

# Shaping interpersonal learning in the jazz improvisation lesson: Observing a dynamic systems approach

International Journal of  
Music Education

2018, Vol. 36(2) 160–181

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DOI: 10.1177/0255761417712318

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## Abstract

Music institutions predominantly utilize the one-to-one lesson in developing and supporting music students' learning of skill and knowledge. This article explores the effect that interpersonal interaction plays in shaping pedagogical applications between teacher and student. Observing the learning of improvisation within this individualized social context, dynamic systems theory (DST) is used to explore how learning and development of musical improvisation skills are shaped by interpersonal behaviors and learning relationships. Through the dimensions of teacher "action" and "affiliation", this phenomenological study investigates the interactive behaviors of five expert Australian educator/improvisers and their students. Interpretative phenomenological analysis is utilized to identify modes of behavioral interactions that evolve through dynamic and fluid interplay. Interactive behavior positions and facilitates the delivery of skill, knowledge, teacher attitudes and understandings of the improvisation process. An interpersonal model of behaviors within the instrumental music lesson is posited, and implications for ongoing critical reflection of interpersonal and pedagogical approaches in the one-to-one context are suggested.

## Keywords

dynamic systems theory, interpersonal learning, jazz improvisation, phenomenology

Research into music education has offered recent insights into knowledge pertaining to the cognitive, artistic and craft-based learning of music. These advancements challenge institutions to the ways they create, transfer and identify learned knowledge, and how these processes may manifest between teacher and student (Sarath, Myers & Campbell, 2016; David, 1998); Muller, 2000). Studies suggest that the one-to one model of instrumental and vocal tuition is widely

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viewed as an “indispensable, intense and intricate” part of instrumental and vocal learning (Gaunt, 2008, p. 230). A clear pedagogical model of preference in bringing student and teacher together and delivering a “serious” vocal and instrumental music education (Harrison, 2004, p. 204), the one-to-one lesson remains an irreplaceable construct in the training of professional musicians (Burt & Mills, 2006; Gaunt, 2008). This interaction between teacher and student is a learning environment experiencing increased scrutiny and interest. Research within the conservatoire has revealed dynastic traditions as well as highly individualized approaches and schools of thought (Kingsbury, 1988). Studies have also revealed the necessity of learning relationships and connectivity to learning communities (Fischlin & Heble, 2004; Gleiser & Danon, 2003).

Within the music lesson teachers use such strategies as scaffolding (Wood, Bruner, & Ross, 1976), coaching (Schön, 1987), mentoring (Gaunt, Creech, Long, & Hallam, 2012) and cognitive apprenticeship (de Bruin, in press). Macro-level studies within these strategies have concentrated on lesson content, time management, and the balance between technical and expressive issues (Gaunt, 2006; Karlsson & Juslin, 2008; Laukka, 2004; Young, Burwell, & Pickup, 2003). Criticism of one-to-one conservatoire tuition has revealed negative effects on students (Burwell, 2006; Persson, 1996) particularly in relation to its perceived teacher dominance (Heikinheimo, 2009; Polifonia, 2010), lack of progressive teaching approaches (Persson, 1996), “directionless activity observed in lessons, lack of planning on the part of teachers and little encouragement towards self-responsibility” (Gaunt, 2008, p. 216).

Salient aspects of one-to-one teaching have begun to be investigated that focus on teachers’ professional specialization (Kennell, 2002; Triantafyllaki, 2010), verbally prompted behavior involving dialogue (Young et al., 2003), the influence of verbal interactions on performance behavior (Folkestad, 2005), and inclusive teacher actions that activate participation of students in their learning (Carey & Grant, 2014). Research is beginning to explore micro-moment teacher and student interactions, and the inter- and intra-psychological connectivity that promotes how teachers and students come to know “each other’s minds” (Bruner, 1996, p. 12). Burwell (2012) has attempted to dismantle the secretive culture of concealment that characterizes the one-to-one studio teaching environment, her study revealing the activation and distribution of teacher responses, and roles of spatial, performance and verbal behaviors in the instrumental lesson. Interpersonal teacher–student research has reported dissatisfaction and lack of “personal chemistry” (Purser, 2005, p. 292), and “specific dissonances – tensions, contradictions, and misunderstandings” evident in interactive behavior (Burwell, 2015, p. 11). Though the vast majority of one-to-one teaching and learning happens behind closed doors making research access difficult (Gaunt, 2011), recent attention has inquired into the epistemology of professional interpersonal practice, and the moment-to-moment aspects of teaching and learning in the instrumental music lesson.

Gaunt (2008) has revealed intense and complex learning relationships formed between teacher and student, reporting tensions within teacher-led reflection-in-action that potentially inhibit the development of student self-responsibility and individual artistic voice. This investigation utilizes this premise to explore how improvisatory disposition is exapted and extracted from one-to-one “practice” by observing the interpersonal behaviors and processes involved between teacher and student. The instrumental lesson is a site of negotiated behaviors and interactions; musical pleasure, awareness, epiphanies, frustrations, disappointments and even anger. Educators involved in improvisatory practices bring to the lesson an at times unique disposition and perspective to this learning environment. As Gaunt suggests, experienced “teachers are the musical agents, the models, and the motivating forces for their students” (2008, p. 215), who strive for optimal and prolonged moments of synchrony in teacher–student effort. This study explores the jazz/improvisation one-to-one lesson and the behaviors that facilitate the inculcation of improvisation skills. It

explores how teacher–student interactions shape the acquiring of skill and knowledge and influence understandings and possibilities to improvised music making. Correlating with similar recent studies the teacher-participants utilized a variety of pedagogical styles and techniques, and the student-participants were open to a variety of learning approaches and experiences (Carey & Grant, 2015; Randles & Muhonen, 2015). The study analyzes micro-procedures in five university music lessons, analyzing the interactive behaviors that support teaching. Interpersonal behaviors are observed through wide-ranging motor sensory, audition, self-regulatory and imagination-based skills and processes necessary to successfully negotiate improvised music making (de Bruin, 2015).

## **The teacher–student interaction**

Teacher–student relationships are a powerful and significant influence on the success of learning (Wentzel, 2012; Wubbels, Opdenakker, & Den Brok, 2012). Teacher–student relationships can be understood in terms of the interpretations that students and teachers attach to their interactions, and the meanings attributed and derived from these moment-to-moment interactions that establish, develop and achieve musical goals. Student–teacher relationships are defined as enduring connections between two individuals, uniquely characterized by degrees of continuity, shared history, and interdependent interactions across settings and activities (Collins & Repinski, 1994; Hinde, 1997). Definitions extend to include qualities of trust, intimacy, sharing, positive effect, and content and quality of communication (Laible & Thompson, 2007). From a developmental perspective, relationships are experienced through the lens of mental representations evolving over time that relate to specific experiences (Bowlby, 1969; Laible & Thompson, 2007). Mental representations that connect relationships with agency, safety, authority, knowledge accessibility and reciprocity are believed to be optimal for the internalization of personal influence (Kuczynski & Parkin, 2007). Also offering stability and continuity, these qualities are dynamic, developmental aspects of a learning relationship that meet the changing needs of the student over time.

Recent studies report the significant and crucial role of awareness of teacher–student relationships in education regarding achievement (Fricke, Van Ackeren, Kauertz, & Fisher, 2012), impact and effectiveness (Georgiou & Kyriakides, 2012), and the positive effect a healthy interpersonal relationship has on student motivation (Maulana, Opdenakker, Den Brok, & Bosker, 2011). The ways music teachers can promote learning processes within a “master” and “apprentice” culture has also been considered (Koopman, Smit, De Vugt, Deneer, & Den Ouden, 2007). The investigation of formalized processes of one-to-one teaching within the jazz improvisation paradigm allows focus on how information is transmitted as well as what is transmitted. These understandings challenge music educators and researchers to develop effective, rewarding and enriching ways that music skill and knowledge is taught and learned. Investigating the music student and teacher interacting in the one-to-one lesson reveals an illuminating perspective to this dyadic relationship, and the perhaps unique phenomena that surround specific musical task-related learning and outcomes.

## **Interpersonal learning – a dynamic systems perspective**

Dynamic systems theory (Thelen & Smith, 1994) can be utilized as a tool to help analyze the relationship between micro-social (interactions) and macro-social goals (outcome achievement). A dynamic systems theory aims to understand the changing patterns of moment-to-moment interactions in relation to changes in outcome patterns. Individual interactions can be regarded as building blocks of patterns of interaction within a social system (Hollenstein, 2007). These relationships can

become manifest through the development of recurrent, relatively stable patterns in real-time interactions (Thelen & Smith, 1998), and are activated through real-time processes and experiences (Hollenstein & Lewis, 2006). Mainhard (2009) identifies that interpersonal content and interpersonal structure in teacher–student interactions are critical for understanding teacher–student relationships, and the way they affect learning.

Interpersonal theory asserts two basic dimensions that form the basis for studying interpersonal behavior; dimensions of dominance (power and control) and affiliation (friendliness and warmth) as descriptors of human interaction (Den Brok, Brekelmans, & Wubbels, 2006; Duncan & Biddle, 1974; Leary, 1957; Wubbels, Créton, & Hooymayers, 1993). Analyzing observed micro interactions that influence learning, this study posits a two-dimensional flow of interaction more characteristic and sensitive to the one-to-one instrumental music lesson and the specialism of skills observed in the instrumental/improvisation lesson. Observing real-time interactions in the teaching of improvisation, dimensions of *action* (enforcing to suggestive) and *affiliation* (sternness to friendliness) are utilized to explore content and structure of learning through teacher–student relationships in relation to micro- and macro-level processes and experiences.

This study will observe interpersonal content and structure of the one-to-one improvisation lesson and analyze characteristics of discourse and function. This study acknowledges that teachers of jazz/improvisation bring their own socio-cultural beliefs, understandings and attitudes that shape methods of teaching. Wubbels, Brekelmans, Den Brok, and Van Tartwijk (2006) suggest that large variations exist in student–teacher relationships in terms of approach, direction and ways of communication. By observing and analyzing various approaches to the teaching and learning of improvisations skills, the study can give insight into the relation between real-time and developmental processes and experiences. Such insights can highlight essential, powerful characteristics of interpersonal teacher–student behavior that facilitate and enhance improvisation instruction.

## Methodology

Phenomenology is a rigorous qualitative methodology utilized in this study that analyses the dynamic and fluid interactions of teachers and their students undertaking learning sequences. Interpretative Phenomenological Analysis (IPA) was applied to understanding the rich and thick descriptions of interactions engaging complex cognitive and skill development procedures experienced from both student and teacher perspectives (Smith & Osborn, 2009). IPA reveals description over mere explanation, eliciting essences of lived experiences and interactions (Moustakas, 1994) and uncovers “embodied experiential meaning” in interactions (Finlay, 2009, p. 6). IPA attempts to understand how participants make sense of their personal and social world through interpretative analysis by the researcher (Eatough & Smith, 2006; Reid, Flowers, & Larkin, 2005; Shaw, 2001; Smith & Osborn, 2009). The researcher in this study is both a practicing improviser and educator, the research captured what is understood as a double hermeneutic approach (Smith & Osborn, 2009), a process of interpretative activity in which “the participants are trying to make sense of their world” (p. 53), and the researcher willing to absorb and reside closely with responses. The researcher as a receptive insider can further “understand the complexity of those meanings” (p. 66).

The participants in this study were five practicing expert improvisers and educators, and their advanced students. Improvisation lessons investigated four male and one female student musicians of saxophone, trumpet, piano, and voice. This study used semi-structured interviews as the method of data generation. Eligibility criteria set for the study were (1) the teacher-practitioner was an expert of 20 years’ experience; (2) the student was of tertiary level; (3) a teacher–student relationship of over 6 months had been established preceding the study; and (4) informed consent from both student and teacher prior to the lesson/interview was granted. A lesson between student and

teacher was videoed to capture both auditory data and unspoken gesture. Immediately after the lesson, an individual interview of the student, and then with the teacher occurred, capturing the immediacy of a reflective process of material engaged and thoughts transpired in the lesson. Interviews were recorded electronically and transcribed for analysis within 48 hours.

The lessons in improvisation were a fluid and dynamic interplay between teacher and student, where the researcher was a passive observer. The interview provided a pathway into exploring student and teacher thoughts, revealing strengths, fears, frustrations and epiphanies that occurred in the lesson and that impacted on teaching and learning. Rather than extracting aggregates and reporting through coded scales commensurate with quantitative measurement, this study explores acquiring of skill in improvising within real-time interactional processes. The study revealed specific features of teacher behavior in creating, nurturing and developing skills and student awareness. Lesson interactions reflected an improvisatory collaboration and negotiation of thoughts and actions impacting learning and affecting the teacher–student relationship. Emphasis is placed on understanding each participant rather than seeking to generalize behavior (Stake, 2005). Several themes emergent in the data were generated, prioritized into major and sub-themes, and categorized into four significant aspects to the teaching and learning of improvisation. The study utilizes motor-sensory, audiative, imagination, and strategy development as investigatory lenses of inquiry that encapsulate a holistic view of improvisational skill development (de Bruin, 2015; Pressing, 1988). The data presents the at times complex interplay of various elements of learning, representing the fluid and dynamic event that is teaching and learning. The categories are supported by both direct quotations from the transcripts and emergent in the interpretative phenomenological analysis (Larkin, Watts, & Clifton, 2006; Smith & Osborn, 2009).

Ensuring consistent systematized rigor, interview procedures followed guidelines in Smith, Flowers, and Larkin (2009). Integral to the analytic process, rigour and trustworthiness was assured through feedback or “member checking” and triangulation between the three elements of data (Bradbury-Jones, Irvine, & Sambrook, 2010). Persistent observation, bias and control between interviews ensured the suspension of assumptions (bracketing) (Lincoln & Guba, 1986). Participants were asked to comment on the presence of an AV device, the researcher acknowledging that such objects, even inconspicuous, can perhaps render threat to validity in qualitative studies (Maxwell, 2005, p. 108). Interview data is presented with teachers denoted as “T” and students as “S”. For clarity the separate learning and teaching episodes are organized as T1 and S1; T2 and S2; T3 and S3; T4 and S4; and T5 and S5.

## **Findings**

Revealed in these moment-to-moment lesson snapshots are interactions that instigate, develop and nuance the learning of a variety of skills through dialogic and played demonstration and instruction. The one-to-one learning situation can be customized to afford an optimal learning relationship in constructing multiple knowledge pathways between teacher and student. Lave and Wenger (1991) stress that learning is a result of participating in social practices more than a result of just teaching. Rather than discuss virtues evident across or between teachers, qualitative analysis reveals diverse personalities, methods, and attitudes to improvisation dynamically displayed in the discourse. Thus, actions were directed within a continuum between direct authoritative commands through to unspoken gesture. Aligning with qualities of affiliation, instruction is applied within a range of emotive intensity from directly enforcing, to that of warmth and friendliness. It is the nature of these prompts; the use of voice, posture, instrumental demonstration, and expressive complementarity that delivers intensity and direction of the micro-moment that enhances the capacity of learning.

## Motor skill development

Lessons all began with the creation of a student sound artifact that prompted discussion and potential exploration, and development negotiated between student and teacher. This interaction captures effective agency concerning motor development:

- T1: So ok let's start, play "over" these chords.  
S1: (Plays).  
T1: right, now watch these notes here (indicates by playing), we gotta get them smoother. Now you play again.  
S1: (plays three times)  
T1: Yeah, and you can do it even a little bit more laid back, and the inflection of the these notes... (Demonstrates), you go again.  
S1: (Plays) I like that better.  
T1: yeah sure you do! Now, there's more interesting things, stretch the whole phrase out, let it linger, like this (plays)  
S1: (Plays twice) Yeah got it.  
T1: Yeah, so we gotta strip it back, get to the essence of some things before we get into it. And from here, you reflect on this, think about "how can I change this, where can I develop this?" (Demonstrates). You can use repetition, develop a triplet feel under your fingers, take this into so many places.

Example 1 below shows a student improvising over a chord structure, following teacher direction. The teacher offers an ideal example described in the text above, demonstrating a "stretched" version, then following this with a verbal prompt to utilize a triplet motor sensory feel. The teacher offers verbal encouragement and support and demonstrates several examples, three of which are displayed here as an evolving development of a motor sensory concept and its usage for extending melodic processes.

A distinction between developing improvisers and experts is the ability to employ heuristic methods, usually acquired tacitly through long experience, to facilitate problem solving. In this teaching episode depicted in Example 1, the teacher solicits heuristic techniques from the students while modeling various strategies for making judgments about how best to proceed. The student responds with what Eraut (2004) describes as *reactive learning*, realizing new ways of playing, thinking and feeling the notes in the hand through experimentation (Sudnow, 1978). The teacher encouragingly uses suggestive language and structural modeling to entice the student to a point of desired musical inquisitiveness and risk-taking. This behavior promotes an affiliative learner/teacher interconnection that facilitates exploration and problem-solving and cognitive synchrony, maintaining focus to be then directed to future courses of thought and action.

### Example 1

Interpersonal behavior can apply detailed nuance to Vygotsky's (1978) social learning theory, and the significance of social relations in human development. This teaching episode exemplifies the way a teacher can reduce the distance between actual and potential levels of development, the teacher purposefully scaffolding learning within a "zone of proximal development". Schoenfeld (1983) acknowledges the generation of courses of action in problem solving of critical developmental importance to developing learning skills, and fine-grained analysis of micro-moment activity makes lucid the actions and effects of purposeful action in student outcomes.

Student attempt



Teacher 'stretched' example. In a 'laid back' style



Teacher demonstration 1



Teacher demonstration 2



Teacher demonstration 3



Developed student response



The following episode exemplifies the (in the moment) negotiation between student and teacher in response to a modeling demonstration. The teacher deviates from the lesson path, yet draws the student's attention to connected skills, attitudes and values by engaging the student in a developmental skill sequence and malleable learning process.

S1: That run you did; can you show that to me again.

T1: Yep

S1: Where does that come from?

T1: Well, it's a melodic run, a synthetic scale if you have to call it that. Something I've practiced, that just emerges when the occasion fits. Work on your own sounds, your own technique and language will evolve. Establish finger control and then challenge yourself physically and aurally. Don't be afraid to experiment. I will show you what I mean. (Demonstrates various lines).

S1: Like this (plays)

T1: That's it! Now group them in fives, sevens, end the phrase on an enharmonic note and resolve it.

S1: (Engages in several attempts).

- T1: (Nods). Ahh, keep focus (whispers).
- S1: (More attempts for 1 minute, finally stops). Wow that felt great, I just lost sense of time and indulged myself.
- T1: Yeah, you really got a flow happening. Now you've got some sorting out of melodic ideas there, some dexterity strategies to work on. Then work at keeping it in time, and then working it over changes [chord structures].

The teacher demonstrates modeling behavior, but quickly fades and cajoles the student to take up the intensity of the melodic exploration. The teacher notably removes from engaging for a minute, allowing full immersion of the demonstrated example to be developed, expanded and improvised on. The teacher maintains control, focus and direction of the learning moment, leading by example. The teacher demonstrates a willingness to deviate from initial emergent activity, accommodating the student's focus, and "improvise" with the thought processes emergent in the lesson. This teacher reflects on this "in the moment" aspect of teaching:

T2: I believe that a more thoughtful teacher is able to grasp and develop thought processes that spring up in the lesson. Quite often some deeper meanings and understandings of thought processes and procedures can be kneaded out by way of an aside, a comment by the student that actually holds the kernel of thought they are contemplating at the time. Capturing those moments can have a significant impact on connecting with the student – it doesn't have to start from me, but I'm comfortable playing with the "thought bubble" to ensure a better outcome. Quite often the mix of playing with ingrained stuff, scales and arpeggios, and the need to be creative fires a lot of questions in understanding creative processes. Those moments of creative sorting out come and go in the lesson, it's important to keep them going as long as possible.

The student's thoughts on this lesson reflected the way teacher behaviors can influence learning, and the interconnectedness of learning skill, knowledge and musicality:

S2: Each lesson is a revelation. I see how mastery of technique and the ability to develop ideas is finely honed. I see the way he practices technique and develops melodic ideas from that. Being able to observe what to do and what not to do, and getting specific techniques and habits into my head and my fingers, and having patience with myself are some of the tenets I take home and work on.

Students rarely, if ever, see expert improvisers practicing, and they tend to hold naïve beliefs about the nature of expert improvising, thinking that the process of creation is a smooth and easy process for "good" improvisers. The one-to-one lesson is a way of unpacking the ways expert improvisers practice, think, and utilize motor, audiation, and self-regulatory strategies, and discuss the interrelationship between them. The knowledge, attitudes, and beliefs demonstrated by teachers through their teaching behaviors act as a powerful influence on student understanding of the various aspects to acquiring improvisational skill.

## **Audiative development**

The learning of audiation, or the pre-hearing of sound ideas as one plays them, is discussed in various ways by the teacher/participants. An aspect of musical skill talked about through reflection, developing processes and the subliminal acquiring of audiated response is discussed in this episode:

S3: (Plays, stops). I know we've done this for a while, but I haven't been practicing that scale pattern recently. I don't know where that [idea] came from, is it my short-term memory stuff?

T3: Interestingly I find I play something, and I think, where did that come from? I don't know why I played that. But then I pass my mind back 3 months, and I think, ohh, I was practicing that back then. I think there is a gestation period where you do something, you forget about it, it goes underground and inevitably it surfaces. It's a strange phenomenon, but it's a good one, and it gives you faith in your practice.

The teacher displays thoughtful understanding and empathy toward the student's learning process, demonstrating and articulating experiential knowledge of acquiring highly developed levels of audiative capacity. Mutual understanding of the complexity and emergence of skills such as audiative ability can enhance respect within the master–student relationship. Describing through a reflective, personalized account the evolving, intangible nature of audiative capacity resonates with the learner's evolving processes of audiative ability. Audiative development can be enhanced by encouraging the student to clarify and compare what they are pre-hearing to what is expressed, and reflecting on how to improve and proceed. This clarifying process can be performed and enhanced through positive reinforcement that is verbally articulated. The following exchange captures such an approach, and Example 2 illustrates three of the student's five attempts at arriving at a desired response:

T2: What are you actually trying to play here?

S2: What I'm playing is not what I am hearing, I really want to make the ending of the phrase more interesting melodically, its got chromaticism, and it has just dawned on me I want to play an upper and a lower note before I resolve it.

T2: Try it again, and be critically aware- if you're going for non-diatonic notes, then be more aware in the moment of being precise with what you want to play.

S2: (Plays) That's it, that's what was inside my head.

T2: Thinking, hearing, and reflecting on what you want to play is an important activity. Now work that phrase so that you have facility across different different keys. Hearing, honing and developing this fluency with what we hear is a significant skill. An aspect of the mastery of improvisation is the process of playing accurately what you mean whilst responding to the musicians around you. The learner still developing skills is often responding to what they themselves have just played, trying to make sense of it or correct it after its been played. Intimacy with your language and experience creating with others allows you to make more informed, intelligent choices, and that leads to better music.

## **Example 2**

As an intimate and informed listener, the teacher in the extract below challenges and provokes clearer thought processes and focus, occasionally treading the fine line between sternly directive critique and assertive knowledge giving, such as in this dialogue on a freely improvised piece performed by this master's student. The lesson progressed with the student performing a free-improvisation work. After 6 minutes the teacher interjects and admonishes the student in a brief verbal display of verbal dominance. Yet, the teacher, as if surprised with their own response to this musical moment, quickly returns to more gentle dialogue, critique and encouragement for efforts. After the performance, the teacher offered a genuine "Thank you, very interesting," before further analysis. Importantly there is respect for the student's creative performance, and the week's effort to realize the ideas presented. The incident unfolded thus:

S3: (plays)

student attempt 1

student attempt 3

student attempt 5

T3: (loudly interjects) See what you did there! Changing that note at the bottom, you thought to recapitulate that idea and restate the tonality but what you did in the right hand completely changed the meaning, and I saw the expression on your face, you were in shock, you didn't mean to do that, did you!

S3: No, you're right, I thought I'd restate the idea but I couldn't keep up with the implications of what I was hearing in my head.

T3: And that's the thing to practice, hear it back, and be more conscious and lucid in the decision making. Having several answers at your fingertips, but having the wherewithal to state the most appropriate. And sometimes you don't hit the note you meant for, and you just have to go with it. That is a part of improvised music making. Now, continue...

The learning episode above demonstrates a more direct appraisal of what went amiss in performance. Rather than prolonging dominance, the initial teacher reaction is shaped to a more verbal organization of strategies and goals. Audiation is discussed in a matter-of-fact way by this teacher as a significant evolving skill an improviser must utilize in the act, and that sometimes there are more successful outcomes than others, but what is performed cannot be taken back, or undone, it's a part of the creative process that feeds the synchronous blending of the learnt and the spontaneous as "in the moment" responses. Despite the interruptive admonishment of the performance, this teacher's verbal communication eases as he transmits understanding, empathy and acknowledgment of the learning situation and the problem-solving processes involved, that acts as a bonding mechanism and a convergence of understanding. Convergence has been described as a strategy whereby individuals adapt to each other's communicative behaviors in terms of linguistic and non-verbal features including speech rate, reciprocity and synchrony in understanding (Feldstein, 1972; Giles, Coupland, & Coupland, 1991). Teacher behaviors that facilitate convergence in interactions can heighten specific positive reactions (De Jong, Van Tartwijk, Veldman, Verkoop, & Wubbels, 2012). Beyond basic smiles of affiliation behavior (friendly behavior begets friendly behavior) teachers who understand, empathize and share views, understandings and values towards certain sub-genres of jazz/improvisation and personal voice will perhaps succeed far more than those who do not share similar values with students (Tracey, 2004). The one-to-one lesson engages a convergence process of sorting out and sizing

up of musical and behavioral strengths, weaknesses and quirks of both teacher and student. The student's recollection of this learning moment captures an intriguing aspect of interpersonal behavior, and the subjectivity of meaning extracted by the student compared to the observer. The student remarks of this learning moment:

S3: I've come to understand the methods with which he encourages me; he always does. I'm in awe of his aural abilities, his sense of structure, composition and harmonic language, it seems effortless but I know it's from relentless practice. He has a soft but intense demeanor, he's actually quite gracious, and if I teach, I would like to be like that.

## **Imaginative development**

Imagination plays an imperative role in discovery, invention and creativity, and ratifies our personal sense of rationality and possibility (Johnson, 2013). Imaginative possibility influences our meanings and inferences, and can centrally place embodied structures of understandings through which the improvising musician constructs their musical world. These teaching episodes give examples of teacher behaviors that facilitate the developing of a personal perceptual field and imaginative development:

S1: Hmm, I'm trying to think of ideas to develop here.

T1: A creative exercise to use over a ii-V, progression is playing busy over the ii, then slow over the V. Try that.

S1: Student performs various attempts.

T1: Yeah, now apply constraints to that. Use 5 notes, use 7. Swap it around so you've gotta play busy over the V chord.

S1: Ohh, ok. (Continues to develop ideas).

T1: Yes, keep going! A few more times. (Student stops). I understand using my imagination as just choice making, I'm just giving you tools to demystify the process and develop a colorful palette of ideas. What I encourage you to do is immerse in this imaginative play by exploring the choices you have. Explore the different patterns and feel under your fingers. Don't shy away from this, because doing this often is what opens your ears to possibilities.

The teacher engages the student in the process, gradually increasing expectation with gentle encouragement and verbal coaching. The teacher carefully explains the processes, rationalizing that ideas are conditioned by the patterns of our bodily experience.

This learning episode prompts challenging of strategies in dealing with a contingency or constraint. Asked to elicit a response utilizing five note groupings, Example 3 demonstrates the evolving nature of this task through the development of responses. Through a sequence of 16 responses, the student developed a strategic and creative understanding to responding to the prompt, developing shorter and faster five note groupings in imaginative play.

### **Example 3**

The following learning episode exemplifies teacher modeling, coaching, and then removing themselves as an aid (fading) as the student grapples with, develops and then asserts confidence with the process:

student attempt 3

student attempt 10

student attempt 16

T5: Ok, Answer my statement in your right hand (on piano).

S5: ohh, right.

T5: Again

S5: You want me to resolve?

T5: Just answer

S5: Ohh..ok.

(teacher and student interact 2 bar phrases for 1 minute)

T5: Now make them longer (four bar phrases)

S5: Yeah, it's getting more chromatic

T5: Just think about responding – with a question, leave it in the air.

S5: Ohh, ok.

(teacher–student music dialogue continues for another minute.)

T5: Now, answer yourself with the left hand (teacher eases away from piano seat)

S5: (Student continues to explore left/right hand dialogue independently for 1 minute.)

T5: Disturb the symmetry.

S5 (plays, elongates phrases and responds obtusely)

T5: That's it! Ok. Well done. Have a think about what's just occurred, and what strategies you can develop out of that. From simple ideas, we get melodies, and from melodies we get compositions. It's all connected, so value the process.

This learning episode occurred over an intense 5-minute musical discourse. Spoken word was at times barely audible, teacher and student mindfully engaged and in close proximity to the same piano. The teacher gently nuanced developmental progression through scaffolds and encouragement, before removing himself from the musical equation and leaving the student to their own devices. The teacher displayed patience, empathy (musical and emotional), verbal metaphor and calm demeanor in nurturing an embodiment of imaginative processes. The teacher ends the micro-moment by introducing aspects of reflection, and non-playing thinking strategy development and regulation of ideas. The teacher insightfully finds the moment to expand a “big picture” of the improvisation process, in an inviting, complementary way that makes the process approachable, do-able and successful to negotiate. Sawyer (2011, p. 2) considers great teaching involves many structuring elements, and at the same time requires improvisational brilliance. Effective interpersonal interplay finds a balance between utilizing structure and eliciting

creativity that optimizes student learning. This is further evinced in the ways teachers assist students in learning to learn.

## **Strategic development**

Teachers encourage the student through various modeling, coaching and reflective activities that can develop and enhance the devising and utilizing of strategies. Self-regulation is a significant aspect of learning (Zimmerman & Schunk, 2001), which facilitates dispositions, motivations and personal voice in improvisers (de Bruin, 2016). The following teaching episode exemplifies the connection between the more basic motor skills, hearing, and the utilizing of developing strategies to prompt more creative and imaginative musical responses. The teacher moves fluidly between verbal interaction and musical gesture that can be described as a “cooperative ritual”, an “exchange in which participants benefit from the encounter” (Sennett, 2012, p. 5). Dialogic and empathic connection between teacher and student via analogy captures an embodied response to interacting with the student and the music materials. An important aspect of all lessons in this study is the absence of score or lead sheet, with the teacher’s instruction an immersive aural experience, and the teacher behaviors articulating and nurturing an embodiment of the process of acquiring improvisational skills. This teacher expresses the feelings derived from establishing and developing melodic and harmonic tensions:

T4: We can play through chords, or we can with more weight outline the tonal centers. If I want to push the audience this way, I can say “let’s embrace this modulation, or I can more subtly hint at the key without being overt and express passing tensions in the chordal movement. (Plays) So there’s me really playing in A minor. But if I used an F# and a G, I can get a different sound. I will think more around arpeggios now. (Plays)

S4: Yes, that’s different!

T4: Ha! That actually felt weird, and it didn’t come off the way I wanted it to, but to try these things, that’s how we advance our ears. It can be really exciting, and you’re ready for that. If we have just one approach to improvising, then we’re going to be telling one story when we play, and sound the same every time.

S4: Yes, it can sound too predictable. I hear what you mean.

The learning episode above (T4) utilizes a judicial approach to dialogical conversation. Bahktin (2004) warns that teacher effectiveness “can be ruined by too much identification with the other person” (p. 20), and that a “good listener detects common ground more in what one assumes than says” (p. 19). The learning episode conferred a distributed cognition via a linguistic, semiotic exchange (Duranti, 1997). Insightful personalized communication and real cooperation is more empathy than sympathy, more about exchanging information and being curious about the other, than about understanding what the other person actually says or does. As in the example above, dialogic conversation should leave space for ambiguity and subjective interpretation that in this case promotes the student’s critical and creative thinking and performance. The notational outcome of this exchange in Example 4 conveys the thinking processes and approaches demonstrated by the teacher. In version 1 a gentler tonal center is asserted while version 2 demonstrates more firmly expressed passing modulations available to the improviser in this situation.

### **Example 4**

The verbal interaction affirms musical possibilities available to the student, making audible, doable and within reach, expert level nuances. Careful modeling is a strategy in which the immediacy of

1st VERSION. A- Bm7 (b5) E7 (b9) A- Bm (b5) E7 (b9)

A- D-7 E7(b9) Cmaj7 A7 (b9)

2nd VERSION A- Bm7(b5) E7(b9) A- Bm (b5) E7 (b9)

A- D-7 E7(b9) C Maj7 A7 (b9)

musical “pivoting” between action and outcome is potentially immediate and effective. Elliott’s (2005) “praxial” music education espouses experiences of success – flow experiences – to be generated from the creative process of modeling and imitation between teacher and student. Modeling acts as an empathic pathway, connecting teacher with student abilities and assisting in negotiating struggles, false starts, and even disappointments that can be a part of the improvising process.

Much teacher behavior places affiliation as the core prescient interactive factor. In low affiliation interactions, increased teacher involvement, energy, interaction and provoking of musical responses resulted in complementary behavior from the student. Patterson (2006) suggests that where affiliation is high, increased involvement is likely to result in reciprocal behavior. Considering the musical and cognitive sorting out experienced by learners of improvisation, where risk-taking and errors of judgment are a part of the learning process, affiliative sensitivity is perhaps a primary requirement in teachers of improvisation. Students’ identifying with their teacher’s beliefs and understandings cements a feeling of camaraderie with the teacher. The entity of the teacher remains a powerful one away from the lesson, with S1 and S3 describing teacher effects on learning in independent work at home. Daniels (2001) suggests that from a psychological perspective, away from the lesson the teacher “is still invisibly present, his ‘voice’ providing support” (p. 65).

The above example exhibited a warm, congenial, yet exploratory negotiation. The interaction between teacher and student below is in a more forthright manner. The critique of student work is a common basis on which the teacher can respond and use as a starting point for questioning and development of established student practices. Dialogue can probe and unlock new dimensions of knowing and experimentation, presenting students with conceptual and self-regulatory tools and inspiration that can be further investigated in their practice. For example, a teacher remarks:

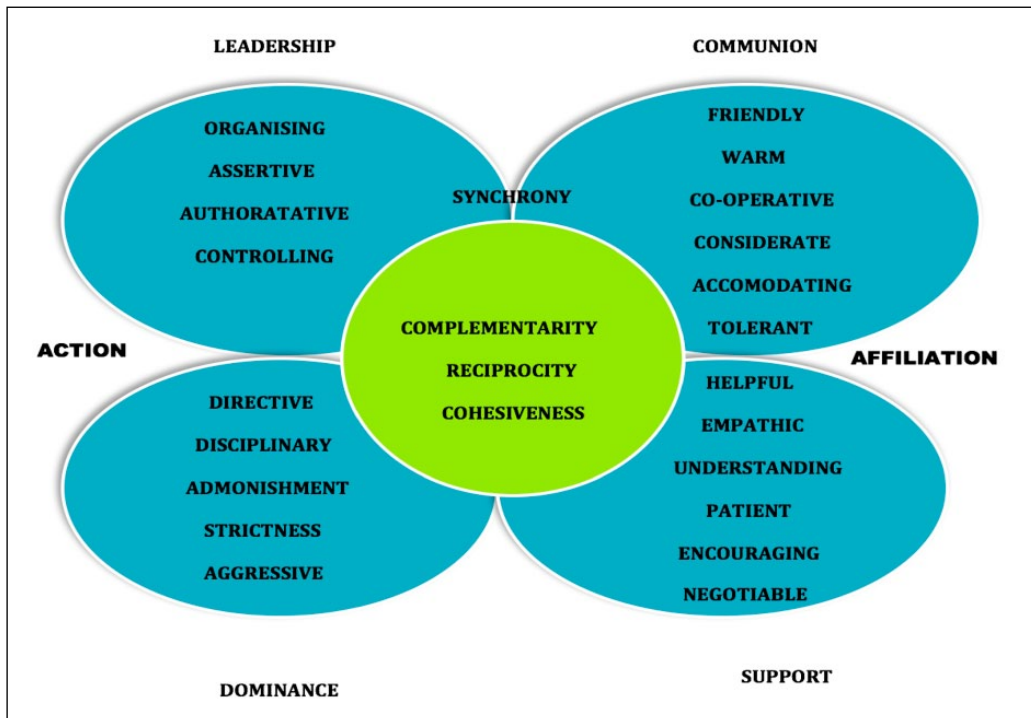
- S5: (Plays, and then reflects). Hmm. I just seem to get trapped into sounding the same for much of that attempt. That frustrates me at the moment.
- T5: Yes, so explore varied approaches to improvising, so that we have multiple ways of developing ideas and maintaining interest for a listener – and for you. We devise strategies. Play off the melody. Sometimes we really want to get into the guts of the chords. Sometimes knowing the chords well enough to be able to be ambiguous with the way we assert the tonality – do we allude or do we sit in it? Melodically we can use many devices, like we did earlier using triplets, rhythmic and chromatic devices.
- S5: Yeah, that opened up a cache of ideas that I can work through.
- T5: Simple ideas become tunes, and then improvisations. Realize the significance of your ideas and give them importance. You become a lot more industrious with your own creations and less willing to discard them.

The use of discovery or expository teaching approaches in these improvisation lessons offers a learner-oriented environment in which the use of verbal behaviors acts as supportive prompts that structure progression. The minimizing of teacher-oriented interruptive dialogue promotes and nurtures student immersion and self-directed inquiry and activity, and facilitates the ongoing micro-investigative moment. The data revealed a range of verbal teacher behaviors, from gentle coaxing to enthusiastic cajoling. Teacher encouragement supports immediate learning and expressive capabilities, as well as self-regulatory strategies and self-reflective practices, with the teacher urging continual adjustment to the processes of planning, making and re-evaluating decisions that extends the students' thinking levels. Teachers' supportive words, described as back channeling (Argyle, 1988), act as encouragement that prompts further positive exploration of the learning idea. A study by Siebenaler (1997) suggested that more effective teachers are more active (via playing and talking) and offer more verbal instruction and provide more feedback. Microanalysis of how and why teachers assert behavioral interactions reveals to what ends this behavior meets the teachers' and/or students' needs and demands in fulfilling effective teaching and learning.

## **A model of one-to-one interpersonal behavior**

Real-time teacher–student interactions vary in interpersonal learning content, structure and synchrony of teacher–student effort. This study shows that variance in individuals' personalities and behavioral traits make the meeting of teacher and student an intriguing engagement of human activity. The values and beliefs of jazz/improvising musicians similarly present a complex mosaic of histories, attitudes and understandings to both learning and performance. The teaching and learning of improvisational skill is an exciting experience by virtue of the way these backgrounds emerge in the behaviors, methods and aims and aural histories of educators. Rather than promote generic aspects of effectiveness, qualitative analysis of interpersonal content, structure, affiliative action and discourse in real-time interactions can increase our knowledge about the effects of teacher behavior in specific moments of student engagement, risk-taking, creativity and learning.

The descriptions of interactive behaviors found in this study assert a wide-ranging array of behaviors that occur within the single lesson between teacher and student. The one-to-one lesson constitutes a highly complex, accelerated and intense form of learning and interactivity, where learning is facilitated by more micro-social bounce between teacher and student. Both teachers and students bring to the class unique personality and skill sets that become dynamically engaged in the lesson. Interpersonal relationship models of typical teacher behaviors have proven effective in describing human interaction (Den Brok et al., 2006; Thelen & Smith, 1994; Wubbels & Levy, 1991; Wubbels et al., 2014). Whilst the vast majority of models represent teacher behaviors evident



**Figure 1.** The Teacher Interpersonal Behavior Model.

in classrooms, this study identifies the nuanced and personal interactivity of the instrumental one-to-one lesson. Utilizing the two major dimensions of human interaction; *action* and *affiliation*, the Teacher Interpersonal Behavior Model (Figure 1) below outlines teacher behaviors prevalent in the one-to-one lesson. Capturing the dynamic and fluid nature of teaching and learning, the diagram captures descriptors of behavior and management procedures evident in lessons.

Dominant yet interrelated categories of *action* and *affiliation* are further nuanced with sub-groups of leadership and dominance, and communion and support. The categories derive from teacher–student interaction observed in the study, which considers perceptions of students and teachers and the meanings derived from moment-to-moment interactions in support of student learning. Actions implying teacher-lead behaviors comprise organizing, controlling, and assertive elements. More dominating behaviors of a disciplinary nature, such as admonishment, dissatisfaction and strictness convey a more unrelaxed and tense learning relationship. Behaviors of affiliation comprise mental and emotional elements of communion such as friendliness, warmth, consideration and cooperation. Supportive behaviors offer a more physically understood interaction, such as being helpful, displaying empathy, patience, tolerance, offering encouragement and negotiation. The center circle depicts an ideal confluence of behavior and interaction where complementarity, reciprocity, cohesiveness and ultimately synchrony of behavior and reaction produce heightened, positive learning.

This conceptualization of teacher-to-student behavior identifies the connectivity of dimensions and behaviors within the one-to-one setting, and considers varying socio-cultural dispositions. The model acknowledges the dynamic flow and fluctuation of interpersonal student–teacher behaviors as student tasks and teacher directions are negotiated throughout the lesson, with direction and aim

towards positive, cohesive and synchronous learning activity. Reflective practices undertaken by instrumental/studio teachers that consider these behavioral nuances can apply positive measures to their practice. Despite the ephemeral nature of student–teacher synchrony, a deeper awareness of micro-learning behaviors can make more prevalent and understood positive behavioral flow, and more efficiently attainable macro-level outcomes.

## **Conclusion**

This analysis of one-to-one learning provides better understandings of the complex relationships and roles teachers and students have in achieving more effective learning outcomes. Dynamic systems theory may enlighten music education to the strengths of mechanisms relating to motivations, attitudes and interpersonal relationships in music education. The study reveals that despite the complexity and interconnection of motor, audiation, imaginative and strategic ideas developed in the lesson, the interpersonal relationship acts as a conduit through which the teacher can identify and personalize the processes involved in a task, and make them visible, understood and achievable. The study revealed effective behaviors that make instruction interactive, creative and collectively organized, and reinforces a culture of expert practice through interpersonal learning relationships with students. Analysis of the one-to-one lesson has further increased understandings of how teacher–student relationships (macro-level) develop from real-time interactional processes (micro-level). The study acknowledges the limits of condition regarding a sample of five participants and the difficulty of expressing the ineffable aspects of music and teacher–student behaviors. It is hoped the interpersonal teacher behavior model can initiate future fine-grained analysis of specific teacher behaviors and their outcomes in this and other areas of instrumental teaching and learning.

The rich descriptions of behavior in authentic settings captured in these one-to-one lessons focus learning on the dynamic nature of teaching complex skills, and the multidimensional nature of learning. Bowman (2005) suggests research in music is “inherently fluid, even under construction” (p. 163) in its capacity to shape understandings of learning. Examining such a historically rooted, yet under-investigated, practice implies further mindful probing of teaching, embracing the intersubjectivity of ongoing negotiation of meaning among teachers, practitioners and students. The proposed model can clarify behavior action and response that occurs in the lesson. Rather than a blueprint for behavior, the model can be utilized as a mindfulness schematic that assists the centering of teacher and student behaviors. By examining authentic learning settings, research can identify more valuable, relevant and effective interpersonal behaviors that more appropriately help shape musicians’ learning in and through improvisation. Improvisation education operates within a continuum of conformity and innovation (Prouty, 2012).

Educators can extend their skill sets beyond knowing, showing and doing, and expand their range and craft of verbal cues that maximize student outcomes. This model can assist teachers in developing more nuanced approaches to shaping dynamics within a lesson and across a sequence of lessons to make learning more engaging and exciting. If educators are more aware of lesson degeneration or impasse they can be more able to change the course of less successful lessons, and maximize outcomes given various contingencies. As Sennett (2012) confides, “We frequently don’t understand what’s passing in the heart and minds of people with whom we have to work” (p. 274). The model can equip teachers with behavioral traits which provide descriptors of affiliation and action that can connect, empathize and engage students beyond rote copying and imitation, and can push the boundaries of creativity and innovative student behaviors.

The challenge remains for researchers to further probe differences and dimensions of teacher–student closeness, action, affiliation and dependency that enhance the one-to-one music lesson. This could help overcome the general “culture of concealment” in one-to-one practice, and better

utilize teaching resources and the connection between individual and collaborative learning. Education within the improvisation paradigm, and the one-to-one lesson in particular, remains a significant area of examination by the world music education research community.

## Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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